-- PeaceNet --


A Computer-Based Information and Communication System

When the machine age has thus perfected its machinery it will be
a means of life and not its despotic master.  Democracy will come
into its own, for democracy is a name for a life of free and
enriching communion.  It had its seer in Walt Whitman.  It will
have its consummation when free social inquiry is indissolubly
wedded to the art of full and moving communication.

                              - John Dewey,
                                The Public and its Problems

# TABLE OF CONTENTS
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# S U M M A R Y

**PeaceNet** is a developing computer-based communication and information-sharing system for the peace movement. **PeaceNet** will substantially increase the effectiveness of the peace movement by providing tools for information access, communication, and coordination to the peace community at large. Users will find the system effective, economical, and simple to use.

**PeaceNet** will integrate a variety of computers into a flexible and diversified system, filling both local and national needs. A national network of UNIX mini computers will be the bulk information handlers of the system. Microcomputers will create sub-networks for smaller geographical areas, organizations, or interest groups. Common standards for information and an extensive directory system will make resources available throughout the system.

Significant software and hardware development is underway. If progress continues at the current rate, which depends upon the funding requested in this proposal, **PeaceNet** will be a national resource with one mini node and a dozen micro nodes by September 1985.

# BACKGROUND

Just as today's business community requires timely, accurate and specialized to information to compete, the peace movement also requires such access to information in its efforts to mobilize public opinion to help move humanity back from the brink of nuclear holocaust.

Today, much of the information the peace movement needs already exists, but it is in a highly disaggregated form. Most of the nearly 6,000 "peace groups" in the country cannot afford to sift through the millions of pages of books, articles, reports, and newsletters generated each year. Even groups with "clearing house" services, who have access to some of this information, are generally incapable of searching and sorting for a particular request quickly.

New communications tools are needed. Conventional mail is slow, and often sits unread or unanswered. The telephone is expensive, and can also be time-consuming when many similar calls must be made, or someone is hard to reach.

Fragmentation and limited communication between groups are a major barrier to common strategy development and coordinated action, even on a local basis. Nationally, travel time and expense are a substantial drain on limited resources. Fast, coordinated, and creative response to rapidly moving events is virtually impossible.

To address the information problem, **PeaceNet** will create a national system of databases, simple and inexpensive to use. Information may be added to or obtained from the system by organizations or individuals with access to a personal computer and modem. The system design allows great flexibility in the way this information is compiled, maintained, and distributed, while allowing easy access on a national basis.

**PeaceNet** will include a national electronic mail service, with messages sent and received on the user's personal or office computer. Overnight delivery...sending long-distance messages automatically at night when rates are low...will reduce costs below first-class mail.

**PeaceNet's** teleconferencing system will allow ongoing discussion and decision-making without having to bring people physically

together in the same place at the same time. Conferences can be local, regional, or national in scope, defined by project or interest area, and can be public or limited to a working group. Conferencing is also effective as a supplement to regular face to-face meetings.

With better information, as well as faster, cheaper, and more effective means of communication, the peace movement can more easily mobilize voters or activists, convene panels of experts, organize media events, prepare congressional testimony, and conduct research.  The flow of information both within and between organizations will produce a quantum leap in the efficiency and effectiveness of the movement.

There are also more subtle effects of PeaceNet to be considered. Communication helps create a sense of community. A nation-wide common carrier for peace related information and planning will give the movement a chance to see itself for what it is...a highly decentralized, dispersed, loosely connected yet vibrant, strong, healthy and hopeful component of American politics.

# 90 - Day Development Plan Components

**Market research**
- User identification
- Develop and conduct a needs assessment survey to over 6,000 peace groups in the U.S.A.
- Survey of related systems and services
- Continue liaison with potential PeaceNet nodes

**Develop network of networks**
- Contact similar/related efforts
- Identify overlap, and complementary potential
- Provide technical support to new PeaceNet nodes
- Provide some limited hardware and software support to new PeaceNet nodes
- Facilitate the distribution / implementation and use of PeaceNet
- Work with other members of the design group to coordinate system development

**Concept development**
- Refine concept in response to survey information
- Further detail system components
- Bring together the human resources required to meet the objective
- Utilize teleconferencing to aid system development
- Explore communication options (voice synthesis, short wave, etc.)
- Maintain necessary accounts
- Attend necessary conferences
- Subscribe to necessary journals / periodicals
- Develop & distribute descriptive materials to potential users
- Develop a test network of 2-3 nodes

**Develop system protocols and software standards**
- Continue software research and development effort
- Develop MIST+ and HCX programming skills
- Ensure compatibility with commonly available computers
- Ensure compatibility among collaborating conferencing/network systems
- Establish baseline system standards
- Develop Version 1 of PeaceNet for micros by September 1
- Set up a Berkeley PeaceNet development site

**Financial development**
- Develop system construction budget
- Develop system operating budget
- Develop performance projections & pricing structure
- Launch a fundraising effort
- Explore funding/fundraising options (MacMail, etc.)

**Administrative components**
        Coordinate public relations
        Maintain correspondeces
        Maintain proper reports and records
        Account for expenses and income
**Preliminary development of operational structure**
        Information acquisition
        Data base development
        Hardware and software maintenance

Select Hardware and Software systems
        Identify desired systems
        Contact manufacturers for donations

Start up date of PeaceNet phase 1: September 1, 1985

Systems in place at start up: 1 Plexus 60 UNIX computer
                              12 IBM-PC/XT/AT comp. computers


Features:

The Plexus computer will be located in Palo Alto, CA and will be
available through Tymnet or another carrier as well as through
the phone lines.  The Plexus will maintain many large databases
such as the international peacegroups, Bibliography, Audiovisual
Materials, Military Budget info. and News Items.

The micro nodes will be distributed throughout the country.  They
will be available through the phone lines.  Some local nodes will
be the electronic "Clearing Houses" for a particular subject,
such as, Military Spending, congressional and Senate voting
analysis, Trident II SLBM development, The Psycological
dimensions of nuclearism

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Probable initial nodes of a national PeaceNet system
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| | | |
|---|---|---|
| Palo Alto | PeaceNet mother node | (UNIX) |
| San Francisco | Peacenet successor | (AT MS-DOS) |
| Berkeley | Arts of Peace | (AT MS-DOS) |
| Brookline, MA | People United for Peace | (PC MS-DOS) |
| Aspen, CO | Creating Peace | (PC MS-DOS) |
| Los Angeles, CA | Beyond War | (AT MS-DOS) |
| XXXXX, IL | Joe Harden | (PC MS-DOS) |
| Washington, DC | SANE (?) | (PC MS-DOS) |
| Palo Alto, CA | Beyond War | (AT MS-DOS) |
| Seattle, WA | The Peace Catalog | (PC MS-DOS) |
| Ithaca, NY | CRESP | (PC MS-DOS) |
| Cambridge, MA | IPPNW | (AT MS-DOS) |

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Other potential early PeaceNet systems
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| | |
|---|---|
| Seattle, WA | Ernest Low, Star Wars Clearing House |
| Brookline, MA | Institute for Defense and Disarmament Studies |
| Washington, DC | Coalition for a new Foreign and Military policy |
| Washington, DC | Arms Control Association |
| St. Louis, | The Freeze |
| New York, NY | The new nuclear information clearing house |
| Stanford | Stanford Arms Control Network |

**Proposed 90 day budget for PeaceNet Micro-system development effort**

| | | | | |
|---|---|---|---|---|
| Mark J. Graham Co-director | 3 months | X | 1920 | 5760 |
| Jon Katz Co-director | 3 months | X | 1920 | 5760 |
| Consultants | 3 months | X | 5000 | 15000 |
| Project Development | | | | 3000 |
| Support to PeaceNet Nodes | | | | 5000 |
| Rent | 3 months | X | 400 | 1200 |
| Phones | 3 months | X | 400 | 1200 |
| Software | | | 1500 | 1500 |
| Hardware Berkeley development site | | | | 10000 |
| ====================================================== |
| Total: | | | | $48,420 |

# PeaceNet Development Organizational Structure

**PeaceNet** is a cooperative development effort of four Northern California organizations, each committed to the social change necessary to make our world more secure.

**Ark Communications Institute (ACI).** ACI has provided some of the early development funding. The Institute is working with several large non-profits in the country and abroad to bring them advanced communications tools.

**Center for Innovative Diplomacy (CID).** CID is working with groups across the country to identify and compile useful databases. It is also developing a survey to be sent to over 6,000 groups asking them about their computer resources, plans, and their information and communications needs.

**Community Data Processing (CdP).** CdP's staff is highly trained in minicomputers, both hardware and software. CdP has a UNIX development machine which will be the first regional node. CdP is responsible for the development of the UNIX environment parts of PeaceNet.

**The Foundation for the Arts of Peace (FAP).** FAP is developing the microcomputer network part of PeaceNet. It is also establishing a microcomputer software development site. This site will later become a PeaceNet development node.

# DETAILED   DESCRIPTION

**Network Structure**

**PeaceNet's** structure is based on a biosystem model, composed of distinct, specialized, but interrelated networks. The system is decentralized, to increase flexibility and innovation as well as to reduce communication costs. It is diverse, to make the most effective use of the range of technical skills and equipment available to **PeaceNet.** And it is flexible, to incorporate new approaches and technologies as they become available. The structure is composed of three tiers: regional nodes, local **nodes, and end users.**

## Regional Nodes

### Function

The regional nodes are the coordinators and bulk information handlers of the system. They store (and maintain) the larger databases, and operate the regional and national conferences. Linked together by high-speed modem and/or other data transfer links, they provide economical long-distance transmission of data and electronic mail. Being the main national network of **PeaceNet**, the regional nodes also provide national coordination of information resource and hardware/software development.

### Constituency

Regional nodes will primarily serve the peace community in their geographical region. Users will include peace organizations, individual activists, academic institutions, researchers, and the press. These users can be either end-users or sub-networks, which operate their own **PeaceNet** local nodes. For maximum flexibility, regional nodes will also fill information requests from other regions, made either through another regional node or directly over phone lines.

### Specialization

Starting in a few major urban centers and expanding gradually, **PeaceNet** would eventually stabilize at 30-50 regional nodes. Regional nodes will specialize in regional interests. Washington D.C. would compile and manage legislative data bases, Seattle would be the clearinghouse for nuclear submarine information, etc. PERSONNEL Regional nodes will have paid staff, information professionals who manage the major data bases and provide support services including special information requests, training, and assistance to users.

### Economics

The regional nodes will be self-supporting. The primary income will be from direct charges to users for connection time, based on a sliding scale of about $5 - $15 per hour. Electronic mail fees will be in the same range as first-class postage. Additional income may come from consulting, data-base printouts, training, and other services.

## Hardware

The regional nodes will be based on UNIX minicomputers.
These machines provide economical operation, multi-user
capability, and enough storage capacity for substantial
databases. They provide a consistent, flexible operating
environment, and are familiar to many programmers.
Initially, most regional nodes will share space on
university or nonprofit-operated minicomputers. As use
increases and minicomputer prices continue to fall, larger
nodes will buy or lease their own machines.

**Local Nodes**

Function

Local nodes will provide the same information tools as the
regional nodes (electronic mail, conferencing, and
databases), but on a smaller scale, and for a more narrowly
defined constituency.


Coordination

Local nodes will be operated by organizations or interest
groups to fill their internal information needs, and/or
communicate with an interested segment of the general
public. As a result, the information found on a local node
may be limited to a specific subject area, or to local
activities.


Linkage to Regional Nodes

A local node will connect to its regional node by modem and
regular telephone line. The local node will automatically
send mail, bulk data requests, and information of general
interest (such as calendar items or announcements) up to the
regional node, and will in turn receive mail and
information. Users at the local node may also directly
access databases and conferences on the regional node.

**Sub-Networks**

The simplest sub-network would be a local node and its local end users, for example a local peace-issues bulletin board system. A slightly more complex network might be maintained by a national organization with a local node at its main office, the end-users being local offices or field organizers scattered around the country. A larger organization could have its own complex network, with local micro-computer nodes at its regional offices, networking with each other, and with end-users consisting of local chapters and the interested public.

## Sub-Network Communications

Sub-networks would not generally have expensive specialized communications resources. Local connections would be by regular telephone lines. Most long-distance communication would be be carried at low cost by the national network of regional nodes. If time were critical, information could be sent directly by regular telephone lines.

## Economics

Local nodes would be operated by organizations or interest groups to fill their perceived information and communication needs. They will be low-overhead operations, often running part-time on computers otherwise used for office chores, and maintained by regular office staff or volunteers.

## Access

Local nodes will be strongly encouraged to be open to public use, within the limits of economic reality. Thus public services will generally have to be limited to those that do not involve connection time to a regional node, and often will be restricted to a part-time schedule. This policy has two important implications. First, much of the information on the network will be available free to the public (who, in turn, will contribute useful information). Second, since a system directory will be available on each node, the public can locate and access information anywhere in the national network through the nearest regional node on a fee basis.

## Software

Packaged software to set up a local node will be available through the regional nodes, either in the public domain or as Freeware. There will be a system program written for a specific type of computer, plus a series of universal application packages for mail, conferencing, databases, calendar, etc.

## Hardware

Local nodes require an office-type computer and a modem. If any quantity of information is to be handled, a hard disk is necessary. The initial system software will run on the IBM PC/XT and compatible computers; software for other computers will soon follow.

## End Users

End users will be organizations or individuals in the peace community. End users can access **PeaceNet** with any home or office computer equipped with a modem, and running any standard communications software. They will not pass information or mail through to other users, and will not provide **PeaceNet** information tools like conferencing or databases.

**System Requirements**

<u>Ease of Use</u>

The system must be straightforward and easy to use, suitable for new or occasional users and for people with little computer experience.

<u>Quality of Information</u>

Information, particularly the larger databases, must be kept complete and up-to-date. The users will do much of this updating on a piecemeal basis, under the concept of "user-supported databases", a cooperative effort to share information. In addition, at certain points in the system professional information managers will be employed to service special needs and perform whatever "electronic housekeeping" is necessary.

<u>Flexibility</u>

Information tools (i.e. the software that actually performs the conferencing, database, or other specialized functions) must be easy to create, customize, and improve. This means that the source code in which the software is written must be available; this is generally the case with public domain, but not with commercial, software. Also, programs (phone alert systems, for example) developed on one part of the system should be usable with little or no modification on any other part of the system.

<u>Economy</u>

Startup and operating costs must be as low as possible. Software for starting a **PeaceNet** node should be public

domain (free) or Freeware (small semi-voluntary payment). Those parts of the system with paid staff and substantial overhead (see STRUCTURE) would charge users for connection time, probably about $5-$15 per hour. Other parts of the network would be free.

<u>Consistency</u>

The user interface must be consistent throughout the network. Due to the decentralized nature of the network, a user might at some time need to connect to any node in the network. There the user should find familiar commands and procedures.

15

## Compatibility

Standard formats for data and mail, and a standard protocol for transmitting data must be used throughout the network. These would tentatively be delimited ASCII text files, the Unix mailer, and KERMIT, respectively.

## Access to System Resources

A complete national directory of data bases, public conferences, mail users, and other resources will be available on each regional node. A smaller directory of major system resources will be on each local node.

# PeaceNet micro-computer software characteristic

- Portable

- Flexible

- Source code available

- Multi-user

- Internal database management system

- Built-in programming language

- Supports XMODEM and KERMIT file transfer

- Menu Driven

- Inexpensive

- Compatible with UNIX mail systems

- Compatable with all terminals

- User-friendly line editor

- Immediate response to keystrokes

- Adjustable Help levels

- Remembers user setups

- Support automatic mail handling

- Offers system security

- Supports automatic file maintenance

## PeaceNet system resources

-- Data Bases

-- Conferencing

-- Electronic Mail

-- Opinion Polling

-- Action Alert Networks

-- Software Distribution

-- Technical support

-- Field Consultation

-- Research and Compilation

-- Off line services

## SAMPLE DATA BASES

**CALENDAR OF EVENTS:** Posting of events, meetings, demonstrations, seminars, films, trips etc.

**ORGANIZATIONS:** Names, addresses, phone numbers and descriptions of peace related organizations.

**VIDEOS, TAPES, BOOKS, NEWSPAPERS, MAGAZINES, JOURNALS, TV, RADIO, GOVERNMENT DOCUMENTS, NEWSLETTERS:** Lists of these and other resources, providing abstracts, reviews, availability, pricing, etc.

**ORGANIZATIONAL RESOURCES:** Listing of volunteers who are available, services that organizations may provide, employment, other information resources, (computer-based bulletin boards, etc.)

**ARMS RACE UPDATES:** Providing timely, concise, coherent, relevant, and clear information and analysis about the arms race.

**SPEAKERS BUREAU:** List of speakers on issues such as arms control, foreign policy, and political activism

**HOTLINE:** Urgent information about demonstrations, events, important legislation, military exercise (invasion), etc.

**LEGISLATIVE DATA:** Provide information about legislation which deals with arms control, foreign policy, military, privacy and other areas of interest. Compile data such as the voting records of all US Congresspeople and Senators.

**MEDIA DIRECTORY:** List of key media contacts for TV, radio, newspapers, and magazines. Lists of public relations professionals who may be available

**PEACE MOVEMENT MILESTONES:** A perpetually growing collection of significant events and milestones in the history of the peace movement, this could include such specific information as: nuclear free zone, Freeze resolutions, civil disobedience actions, rallys, political successes, etc.

## PeaceNet Features (continued)
### CONFERENCING

This feature will enable people to participate in ongoing discussions on specific issues without needing to be in the same place, or even to be on the system at the same time. Choosing from a menu of options the user may view a list of the topics, titles of comments within topics, dates, sources (if given), etc. Users can read what others think about a subject and add their thoughts. This technique enables many people to exchange perspectives on a number of subjects of interest without having to go to endless meetings and to coordinate rapid responses to fast breaking events.

### ELECTRONIC MAIL

Electronic mail is similar to conferencing but the messages can be private and directed to specific people using the system. Each user has a "Mail Box", which can contain messages from other users and or the system operator. PeaceNet will provide the communications links and service to send messages to other conferencing/communications systems such as Dialog, The Source, Meta Net, USENET, etc.

### OPINION POLLING

Users can be presented with a questionnaire allowing them to vote, rank order and comment on a series of options. This can be especially useful in the formulation of plans and strategies among people and organizations in different parts of the country. The results from this type of polling can be automatically updated, providing timely and accurate reports.

### ACTION ALERT NETWORKS

An action alert is a phone tree system which allows many people to be quickly contacted to perform a prearranged action, such as calling a congressperson or meeting for a rally. PeaceNet will include an action alert system for its users, and provide software so its users may set up their own specialized action alert systems.

### SOFTWARE DISTRIBUTION

PeaceNet will include a diverse catalog of public domain software which would be available for downloading to users' own computers. This would include standard utility and communication programs, as well as specialized programs such as mailing list managers, accounting packages, action alert system, and the software to set up a local PeaceNet node.

Since many peace groups are new to computer technology,
**PeaceNet** will offer assistance in defining needs, locating
inexpensive equipment (particularly modems for accessing
**PeaceNet**), and generally getting on line. Resources will
include a library of hardware and software information and
telephone consultation.

## FIELD CONSULTATION

Support services will include training, assistance getting on-
line, and troubleshooting.  Training can be tailored to an
organization's needs.  Field visits will be available if
necessary.

## RESEARCH AND COMPILATION

**PeaceNet** will serve as a clearinghouse for information about
the nuclear arms race and efforts to end it.  This will allow for
the development and continual updating of data which would be
made available through the on-line data bases described above and
also in a more conventional walk-in library, like the Data
Center, in Oakland CA.

## OFF LINE SERVICES

In addition to providing access to all of the services and
resources described so far **PeaceNet** will provide conventional
computer and information services such as: list compilation,
media transfer (moving data from one computer to another), and
special printing requests.

## Vignette of PeaceNet in Operation

Ben is an organizer for a small national peace organization,
characterized by a limited but influential constituency within
the business community. The organization has several field
organizers in major cities around the country, and relies on
their mobility to cover the remaining territory. Organizers are
paid a commission based on the number of new members they sign
up. Until the organization joined PeaceNet, communication was a
substantial problem, contributing to a sense of isolation among
the field representatives. Morale problems were compounded by the
delay in processing commission payments.

It's been a busy day in Seattle, a luncheon talk and an
evening house meeting. Eight new members have joined. Their
names, addresses, and other information were entered on the spot
into Ben's Model 100 portable computer. Now, at home, Ben plugs
the Model 100 into the phone jack, and hits the button that dials
the main office's computer in Washington, D.C., then logs him in.
Another two key strokes and the membership information is on its
way...and it's good to know that tomorrow morning his commission
check will be automatically printed and ready to mail, despite
the fact that the office staff is frantically busy with a
critical lobbying campaign.

Twenty seconds of transmitting, the Model 100 beeps, and the
mail starts coming in. First a memo from Helen in the Washington
office to all field staff: publication orders. The memo ends with
a request menu; Ben orders 50 copies of the newsletter, and a
summary of the monthly staff report. There are a dozen more items
on the list, but he's either seen them all, or he'd never read
them anyway. Quite an improvement over the old days, when they
spent a fortune on printing and postage to send everything to
everybody, and most of it just sat in the corner until it got
thrown away.

One more piece of mail, a personal message from Judy, the
Southern California organizer. She's come up with a really good
connection in Portland, and suggests that Ben take a trip down to
do a presentation. It sounds like a good idea; he hits the REPLY
button, and sends Judy a quick thank-you note. Now, what about
the timing? Back to the Main Menu, and into Calendar, just the
week of June 12th. A quick scan, and...no good. The organizers'
training was that week, and somehow he'd forgotten. Then the next
week? That one's clear. OK. Now Personal Calendar, Enter. June
21-23 "Portland Trip .Presentation. Tentative" If anyone wanted
to plan anything involving Ben, they'd know when not to do it.
Next, send a memo to D.C., outlining the Portland trip and the
tentative date. And finally, Ben places a data base request for
members and contacts in the Portland area. He'll have to call
back tomorrow night for that one; for security reasons membership
information is only available over the phone lines by special
request. Ben logs off; total time on line, under ten minutes.

Tonight's work isn't over yet. Ben brings up the Model 100's telephone directory, and logs onto the Seattle regional PeaceNet node. The login program includes a credit card number for billing. First he checks into the Strategy Conference. The main topic is planning for a week of coordinated action around nuclear submarine bases in Puget Sound. Ben's organization won't be directly involved in the protests, but he knows he'll be in a good position to take advantage of the publicity around the actions. He notes the dates, and decides to get a friend to download and print out PeaceNet's submarine information files, which are too large for the Model 100 to handle efficiently. Next he puts in two database search requests for Portland. One is for congressional information and voting records, the other for military contractors and contracts. The databases are on Washington D.C. PeaceNet, and all information relating to Portland will be waiting on Seattle PeaceNet the following evening. Before logging off, Ben opens the Directory, and gets the phone number for Portland PeaceNet. The Directory notes that Portland is a local node, operates evenings and weekends, and only can handle three callers at a time. At least it's free, thinks Ben.

Happily, Ben gets through to Portland on the first call. A look at the Calendar shows that there are no local events that would conflict with his visit. Next he checks out the conferences to see what the current local issues are. One item catches his attention. A religious group has been conducting an ongoing vigil at a plant that produces assemblies for the Cruise missile. It's the same company that has recently been in the news for probable fraud in its military contracts. This connection has some possibilities. The Speakers Listings include two people with ties to the business community; tomorrow Ben will call them to sound them out about participating in his presentation. Finally he goes through the Peace Organizations Database. Physicians for Social Responsibility and Lawyers for Nuclear Arms Control go onto Ben's phone list too; doctors and lawyers are likely to know business people. Ben logs off. In less than an hour, he has done work that would have taken hours, possibly days, without PeaceNet.

# Why Distribute and Diversify?

- increase potential for creative input

- share the burden

    - financial
    - hardware and software constraints
    - information management
    - the availability of human help

- can meet many user's needs for free or for the cost of a phone call

- local nodes will not charge for connect time

- new system tools and resources can be developed and tested on single nodes easily and without systemwide service degradation

- local nodes can enhance a sense of community

- local nodes can form sub-networks based on geography, interest, or other common ties

- other common groups will be those formed within a national organization with branch, state offices and or chapters

- the software and hardware environments will be accessible enough for people to continue system development

- the software will be flexible and tailorable enough to facilitate easy custom work to solve specific computering and communications needs; i.e. one will be able to tailor custom solutions to problems, such as membership management

# Typical Regional Node...Projected Budget

## EXPENSES

| | |
|---|---:|
| HARDWARE   $ 100,000 to upgrade for 100 users, | |
| amortized over 5 years | $ 20,000 |
| WAGES   2 employees | 40,000 |
| TELEPHONE | 12,000 |
| MISCELLANEOUS | 8,000 |
| | ================= |
| **TOTAL   $ 80,000** | |

## INCOME

| | |
|---|---:|
| CONNECT TIME   100 users @ 5 hr/month | |
| @ $ 8/hr | $ 48,000 |
| COMMUNICATIONS FEES | 15,000 |
| DATABASE FEES | 2,000 |
| SPECIAL SERVICES consulting, printouts, etc. | 15,000 |
| | ================= |
| **TOTAL   $ 80,000** | |

# Project Personnel

Mark J. Graham is associate director of the Foundation for the Arts of Peace. In this capacity, he develops and maintains software and data base systems, manages mailing and publicity operations, and oversees project development and management.

Mr. Graham served in the United States Air Force (1979-1983), assigned to the computer facility of the Joint Chiefs of Staff, where he was responsible for the processing of the Air Force and Department of Defense budget, operation of the World Wide Military Command and Control System (WWMICS), and operation of the primary war-gaming systems for the Studies and Analysis section of the Air Staff.

In 1983, Mr. Graham was publicity assistant at Ground Zero California, promoting the "FIREBREAKS" game and What about the Russians and Nuclear War?. He also served as assistant to the director of the Target Kansas City/Let Lawrence Live Campaign which coordinated the development and execution of the independent national media campaign surrounding the ABC movie "The Day After." Mr. Graham co-authored the grass-roots "Speaker's Manual" for "The Day After."

Jon Katz is a self-employed computer consultant. He has extensive experience with nonprofit groups. A founder and co-director (1980-1982) of the San Francisco Community Energy Coalition, he had primary responsibility for program development, budget, and outreach to community groups. He has organized neighborhood environmental projects (Bernal Solar Project, CURE); designed and conducted energy conservation workshops for San Francisco and San Mateo Counties and PG&E; and managed construction projects for nonprofit groups including cooperatives and Asian and Native American self-help groups.

He has considerable experience with cp/m and ms/dos microcomputers: hardware design, modification, and repair; assembly language programming; and design of data management systems in DbaseII/III.

Active in the peace movement since high school, he has been a paid and volunteer computer consultant for movement groups, including **Peacenet**, Peace and Environmental Convention Coalition, Center for Third World Organizing, Interhelp, and Foundation for the Arts of Peace. He has been System Operator of the **Peacenet** Bulletin Board. His involvement with the anti-nuclear Abalone Alliance included neighborhood organizing and working on the cb-radio based communication system during the Diablo Blockades.